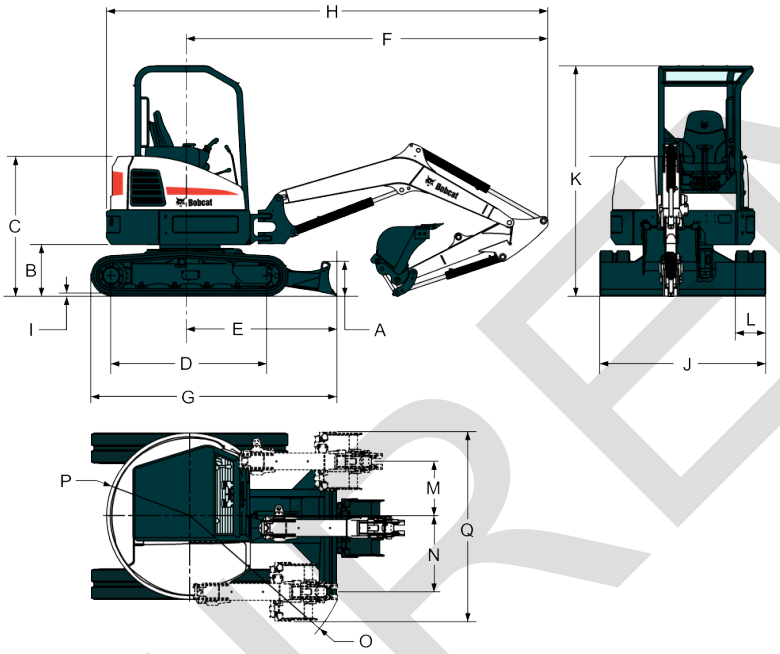
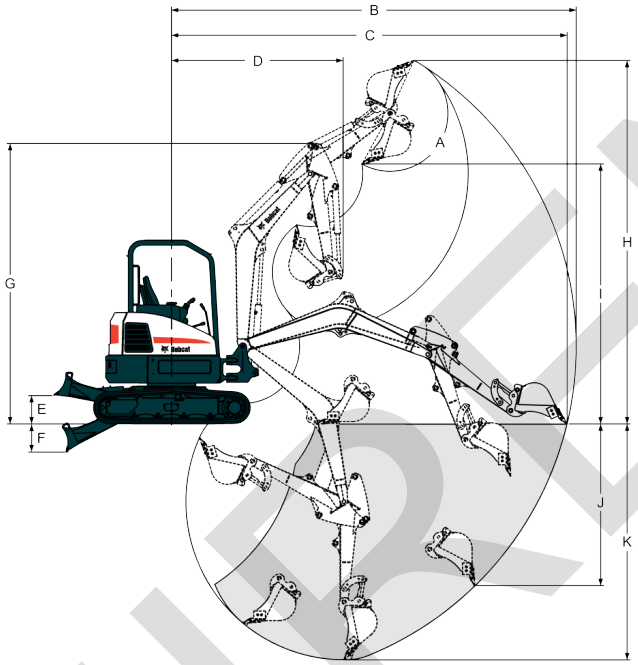
Dimensions



(A)	Blade height	350.0 mm
(B)	Clearance, upper structure to ground line	537.0 mm
(C)	Ground line to top of engine cover	1473.0 mm
(D)	Length of track on ground	1647.0 mm
(E)	Machine centre line to blade	1546.0 mm
(F)	Minimum radius in travel position, standard dipperstick	3787.0 mm
(F)	Minimum radius in travel position, long dipperstick	3796.0 mm
(G)	Overall length of track assembly	2068.0 mm
(H)	Overall length in travel position, standard dipperstick	4820.0 mm
(H*)	Overall length in travel position, long dipperstick	4829.0 mm
(I)	Track lug height	23.0 mm
(J)	Blade width	1750.0 mm
(K)	Height	2429.0 mm
(L)	Track width	320.0 mm
(M)	Machine centre line to working equipment centre line, left-hand rotation	575.0 mm
(N)	Machine centre line to working equipment centre line, right-hand rotation	795.0 mm
(O)	Minimum turning radius, standard dipperstick	1788.0 mm
(O)	Minimum turning radius, long dipperstick	1841.0 mm
(P)	Swing clearance, rear (zero tail swing)	875.0 mm
(Q)	Working width at maximum right-hand rotation	1982.0 mm
(R)	Working width at maximum left-hand rotation	1762.0 mm
(•)	Boom length (boom pivot to arm pivot)	2450.0 mm
(•)	Standard arm length (arm pivot to bucket pivot)	1325.0 mm
(•)	Optional arm length (arm pivot to bucket pivot)	1625.0 mm

(Values with a "" are for the long dipperstick)*

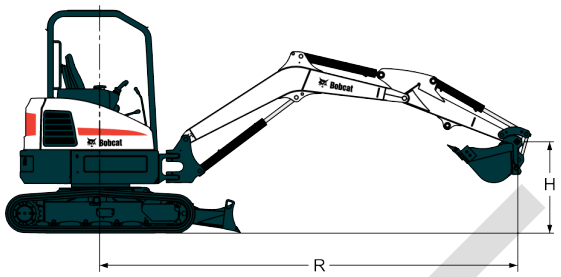
Working Range



(A)	Bucket pivot angle	185°
(B)	Maximum reach of working equipment, standard dipperstick	5351.0 mm
(B)	Maximum reach of working equipment, long dipperstick	5633.0 mm
(C)	Maximum reach at ground level, standard dipperstick	5230.0 mm
(C*)	Maximum reach at ground level, long dipperstick	5520.0 mm
(D)	Maximum working equipment radius with boom at maximum height and dipperstick fully retracted, standard dipperstick	2267.0 mm
(D*)	Maximum working equipment radius with boom at maximum height and dipperstick fully retracted, long dipperstick	2327.0 mm
(E)	Maximum blade height	376.0 mm
(F)	Maximum blade depth	371.0 mm
(G)	Maximum height of working equipment with dipperstick retracted, standard dipperstick	3708.0 mm
(G)	Maximum height of working equipment with dipperstick retracted, long dipperstick	3708.0 mm
(H)	Maximum bucket tooth height, standard dipperstick	4804.0 mm
(H*)	Maximum bucket tooth height, long dipperstick	4985.0 mm
(I)	Maximum dump height, standard dipperstick	3437.0 mm
(I*)	Maximum dump height, long dipperstick	3618.0 mm
(J)	Maximum depth of vertical wall which can be excavated, standard dipperstick	2136.0 mm
(J)	Maximum depth of vertical wall which can be excavated, long dipperstick	2414.0 mm
(K)	Maximum digging depth, standard dipperstick	3117.0 mm
(K*)	Maximum digging depth, long dipperstick	3417.0 mm

(Values with a "" are for the long dipperstick)*

Lift Capacity (Standard dipperstick - Object handling applications excluded)



Rated lift capacity over blade, blade down

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
3000	4086*	600*			601*
2000	4534*	647*		750*	660*
1000	4663*	702*		1116*	818*
Ground	4520*	763*		1333*	952*
-1000	4021*	855*		1286*	892*

** Rated hydraulic lift capacity*

Rated lift capacity over blade, blade up

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
3000	4086	378			376
2000	4533	294		699*	392
1000	4665	286		563	377
Ground	4525	299		530	375
-1000	4046	366		520	376

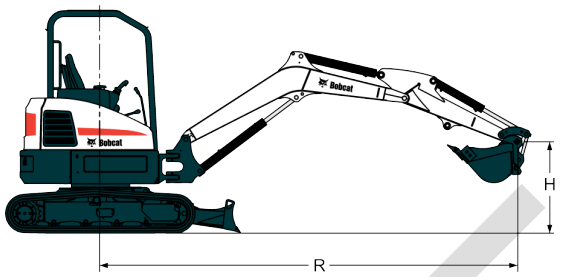
** Rated hydraulic lift capacity*

Rated lift capacity over side, blade up

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
3000	4090	364			402
2000	4565	292		610	384
1000	4675	267		549	363
Ground	4559	272		519	346
-1000	4067	331		515	346

** Rated hydraulic lift capacity*

Lift Capacity (Long dipperstick - Object handling applications excluded)



Rated lift capacity with counterweight over blade, blade down

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
4000	3538*	533*			
3000	4385*	543*			515*
2000	4762*	585*		630*	600*
1000	4853*	637*		989*	726*
Ground	4700*	714*		1269*	878*
-1000	4261*	765*		1301*	842*

** Rated hydraulic lift capacity*

Rated lift capacity with counterweight over blade, blade up

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
4000	3528*	519*			
3000	4415	420			502*
2000	4764	338		617*	459
1000	4857	308		666	452
Ground	4709	310		647	461
-1000	4310	343		586	404

** Rated hydraulic lift capacity*

Rated lift capacity with counterweight over side, blade up

Lift point height [H] (mm)	Maximum radius [R] (mm)	Lift at max. radius (kg)	Lift at 2000 mm radius	Lift at 3000 mm radius	Lift at 4000 mm radius
4000	3528*	511*			
3000	4370	431	-	-	542*
2000	4740	364	-	529	460
1000	4872	337	-	679	422
Ground	4719	317	-	624	424
-1000	4331	357	-	616	414

** Rated hydraulic lift capacity*

Performance

Digging force, dipperstick (ISO 6015)	21000 N
Digging force, long dipperstick (ISO 6015)	18320 N
Digging force, bucket (ISO 6015)	31500 N
Drawbar pull	34034 N
Ground pressure with rubber tracks	28.60 kPa
Ground pressure with steel tracks	29.40 kPa
Ground pressure with long dipperstick and rubber tracks	31.20 kPa
Ground pressure with long dipperstick and steel tracks	32.00 kPa

Cycle Times

Boom raise time	4.4 s
Boom lower time	5.1 s
Bucket curl time	2.7 s
Bucket dump time	1.9 s
Dipperstick retract time	2.9 s
Dipperstick extend time	2.4 s
Boom swing left time	7.0 s
Boom swing right time	7.2 s
Blade raise time	3.1 s
Blade lower time	3.5 s
Slew rate	8.6 RPM

Weights

Operating weight with ROPS canopy , rubber tracks, counterweight, 610 mm bucket (SAE J732)	3349 kg
Additional weight for cab with heating	121 kg
Additional weight for cab with HVAC	140 kg
Standard arm length (arm pivot to bucket pivot)	1325.0 mm
Additional weight for long dipperstick	306 kg
Boom length (boom pivot to arm pivot)	2450.0 mm
Reduction for shipping weight	100 kg

Engine

Make / model	Kubota / D1803-M-D1-E3B-BC-3
Fuel	Diesell
Cooling	Liquid, forced circulation
Maximum power at 2400 RPM (SAE J1995)	24.4 kW
Maximum governed speed	2400.0 RPM
Maximum torque at 1400 RPM (SAE J1995)	107.4 Nm
Number of cylinders	3
Displacement	1862 cm^3
Bore	87.0 mm
Stroke	102.4 mm
Air filter	Dry, dual element, replaceable paper cartridge with safety element and restriction indicator
Ignition	Diesel-compression
Starting aid	Intake air heater

Electrical

Alternator	12 V — 90 A — open frame with internal regulator
Battery	12 V — 530 A cold cranking at -18°C — 75 min reserve capacity at 25 A
Starter	12 V — gear reduction type — 2.0 kW

Hydraulic System

Pump type	Single outlet variable displacement, load sensing torque limited pump
Piston pump capacity	100.80 L/min
Gear pump capacity	9.60 L/min
Swing lock release presssure	216.00 bar
Port relief pressure for boom circuits	290.00 bar
Port relief pressure for bucket, blade and dipperstick circuits	270.00 bar
Control valve	9-spool, closed centre, individually compensated
Hydraulic filter	Full-flow replaceable — 3 µm synthetic media element
Fluid lines	SAE standard tubelines, hoses, and fittings
Auxiliary flow	63.90 L/min

Hydraulic Cylinders

Boom cylinder	Cushion up
Boom cylinder bore	76.2 mm
Boom cylinder rod	44.5 mm
Boom cylinder stroke	670.1 mm
Dipperstick cylinder	Cushion up & cushion retract
Dipperstick cylinder bore	76.2 mm
Dipperstick cylinder rod	44.5 mm
Dipperstick cylinder stroke	607.1 mm
Bucket cylinder	No cushion
Bucket cylinder bore	69.9 mm
Bucket cylinder rod	44.5 mm
Bucket cylinder stroke	466.3 mm
Boom swing cylinder	Cushion left and right
Boom swing cylinder bore	82.6 mm
Boom swing cylinder rod	44.5 mm
Boom swing cylinder stroke	459.9 mm
Blade cylinder (1)	No cushion
Blade cylinder bore	88.9 mm
Blade cylinder rod	44.5 mm
Blade cylinder stroke	160.0 mm

Buckets

Width	Weight (kg)	Rated capacity (L)
STD 23 cm	55.8	28
STD 30 cm	58.7	41
STD 40 cm	69.5	60
STD 45 cm	74	70
STD 50 cm	78.5	80
STD 60 cm	89.2	100
STD 70 cm	99.9	120
STD 75 cm	104.4	131
STD 80 cm	108.9	140
STD 90 cm	119.6	162
HD 30 cm	68.9	41
HD 60 cm	101.5	100
HD 70 cm	121	120

Slew System

Boom swing, left	77°
Boom swing, right	55°
Slew circle	Single row shear-type ball bearings with internal gear
Slew drive	Axial piston connected to a planetary drive

Drive System

Travel motor	Each track is driven by a hydraulic axial piston motor
Drive reduction	Two-stage planetary gear reduction 48.6:1

Traction

Track width	320.0 mm
Track adjusters	Grease type with shock absorbing recoil springs
Track type, standard	Half-pitch, rubber (directional type)
Track type, optional	Steel, triple grouser shoe
Travel speed, low range	2.6 km/h
Travel speed, high range	4.7 km/h
Undercarriage	Crawler X-frame design with reinforced box section track roller frame and sealed track rollers
Number of track rollers per side	1 top, 5 bottom
Gradeability	30°

Brakes

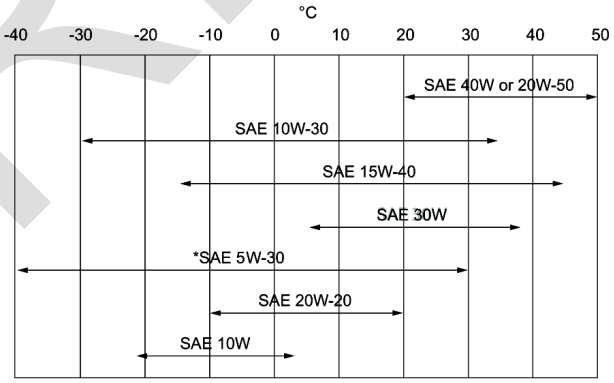
Parking brake	Spring applied, hydraulically released, multi-disk brake
Slew brake	Spring applied, hydraulically released
Travel brake	Hydraulic brake on motor

Fluid Capacities

Cooling system	8.00 L
Engine lubrication plus oil filter	5.20 L
Fuel reservoir	53.10 L
Hydraulic reservoir	9.50 L
Hydraulic system	39.70 L
Final drive case (each)	0.50 L

Fluid Specifications

Engine coolant	Propylene glycol/water mix (53% - 47%) with freeze protection to -37°C 5 L can - 6904844A, 25 L container - 6904844B, 209 L drum - 6904844C, 1000 L tank - 6904844D
Engine oil	Oil must meet API Service Classification of CD, CE, CF4, CG4, or better. Recommended SAE viscosity number for anticipated temperature range.



* Can be used only when available with appropriate diesel rating. For synthetic oil use the recommendation from the oil manufacturer.

Hydraulic fluid	Bobcat Superior SH, 5 L can - 6904842A, 25 L container - 6904842B, 209 L drum - 6904842C, 1000 L tank - 6904842D Bobcat Bio Hydraulic, 5 L can - 6904843A, 25 L container - 6904843B, 209 L drum - 6904843C, 1000 L tank - 6904843D Motor oil is not an acceptable alternative fluid.

Controls

Engine	Hand dial on right hand side. Electronically controlled. Auto idle system to reduce fuel consumption.
Starting	Key type starter and shutdown switch
Blade	Right hand lever
Boom swing	Electric switch in left joystick
Hydraulics	Two joysticks control boom, bucket, dipperstick and upper structure slew
Auxiliary hydraulics	Electric switch in right joystick (left joystick for second auxiliary)
Upper structure slew lock for holding and service	Hydraulic lock on motor
Steering	Direction and speed controlled by two pilot-operated hand levers or two foot pedals

Instrumentation

- Charging system indicator
- Engine oil pressure indicator
- Engine temperature gauge
- Fuel gauge
- Hour meter
- Hour meter, resettable
- Hydraulic system indicator
- Tachometer
- Engine throttle dial
- Auto idle switch
- A/C control switches
- Windshield wiper/washer switch
- High travel speed indicator
- Work light switch
- Work light indicator
- Battery kill switch

Serviceability

Fuel filter is external and has key lock for vandal proofing
Access is available to the following through the rear tailgate or side access hood:

- Air cleaner with indicator
- Battery
- Cooling system (engine oil and hydraulic oil coolers) for cleaning
- Control valve
- Engine oil and fuel filters
- Engine oil level
- Fuel filler
- Hydraulic valve bank
- Starter
- Sight gauges for hydraulic level

Central grease point for swing bearing, swing pinion, and offset cylinder
Tailgate and access cover have locks for vandal-proofing.
Easy access to all grease points.

Standard Features

- 1750 mm dozer blade
- 320 mm rubber tracks
- Auto idle
- Auto shift travel
- Auxiliary hydraulics with Quick Couplers
- Selectable auxiliary hydraulic flow
- Blade float feature
- Cab light
- Clamp ready
- Control console locks
- Cupholder
- Engine/hydraulic monitor with shutdown
- Fingertip auxiliary hydraulic control
- Horn
- Full fuel warning alarm
- Hydraulic joystick controls
- Lockable storage compartment
- Radio/MP3 ready
- Retractable seat belt
- Suspension seat with high back
- TOPS/ROPS* canopy [1]
- Two-speed travel
- Work lights (boom and upperstructure)
- Warranty: 12 months, 2000 hours (whichever occurs first)

Options

Options
- Air conditioning (Cab with HVAC)
- Heating (Cab with heater)
- Long dipperstick
- 2nd Auxiliary hydraulics
- Deluxe textile suspension seat
- Boom safety valve with overload warning
- Boom & arm safety valves with overload warning
- AM/FM MP3 stereo radio
- FOGS kit (Overhead guard)
- Lifting chain kit
- Travel motion alarm
- 300 mm steel tracks
- Beacon kit
- Left and right mirror kit
- Additional work light kit
- Rubber bolt-on pads for steel tracks
- Special applications kit (Front windscreen protection)
- Fuel filter with transparent water separator

1. Roll Over Protective Structure (ROPS) – Meets requirements of ISO 3471. Tip Over Protective Structure (TOPS) – Meets requirements of ISO 12117.

Attachments

- Augers
- Breakers
- Clayspade Buckets, Klac
- Clayspade Buckets, Lehnhoff
- Clayspade Buckets, Pin-on
- Digging Buckets, Klac
- Digging Buckets, Lehnhoff
- Digging Buckets, Pin-on
- Digging Buckets, X-Change
- Grading Buckets, Klac
- Grading Buckets, Lehnhoff
- Grading Buckets, Pin-on
- Grading Buckets, X-Change
- Rotary Grinders
- Trenchers

Environmental

Noise level LpA(EU Directive 2000/14/EC)	77 dB(A)
Noise level LWA(EU Directive 2000/14/EC)	94 dB(A)
Whole body vibration (ISO 2631–1)	0.14 ms^{-2}
Hand-arm vibration (ISO 5349–1)	0.44 ms^{-2}

Safety

Retractable seat belt, standard	Should always be worn when operating the excavator
Operator cab, standard	A four-post canopy or optional closed cab. Meets SAE J1040 for Roll Over Protection Structure (ROPS) and ISO 12117 for Tip Over Protective Structure (TOPS). An optional top Falling Object Guard Structure (FOGS) meeting ISO 10262 Level 1 * is available.
Grab handles, standard	Should always be used when entering/exiting excavator.
Safety tread, standard	Slip resistant tread on canopy threshold to be used when entering/exiting excavator.
Front working lights, standard	Use for indoor and low light operation.
Control lockout, standard	Operator console locks out work group and travel functions when in the upright position.
Upper carriage slew lock, standard	An automatic disk brake locks the upper structure to the undercarriage for transport.
Pedal lock, standard	Prevents activation of the boom swing function.
Travel motion alarm, optional	For use when required
Special applications kit, optional	Restricts objects and material from entering cab openings.
Operator's handbook, standard	Weather-resistant operator handbook attached to the inside of the cab, providing operational instructions and warnings decals with pictorials and international symbols.